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ABSTRACT

This is a report on the evaluation of the Reading Strategy Project operated in 46 public and eight non-public schools during the 1974-75 regular school year. This project served 7,698 pupils. The design of the instructional format of the Reading Strategy Project was one which utilized a criterion-referenced diagnostic reading test, locally constructed, to identify degrees of accuracy within sub-skill areas of comprehension, vocabulary, auditory discrimination, syllabication, beginning and ending sounds, blending, and sound discrimination. Special teachers provided help to the classroom teachers. Evaluation was directed toward determination from test data and the subjective opinions of parents, teachers, principals, and project staff the extent to which the project had met its product objectives. Some of the findings drawn from the evaluation procedures were: (1) Based on a sample of 85 students, it was determined that 82 percent of fourth grade and 80 percent of fifth grade participants attained the objective criteria based upon 80 percent mastery of the Diagnostic Reading Probe posttest; (2) Fifty-three percent of the sample maintained and/or increased their stanine status from third to fourth grade; and (3) Increased positive attitudes toward reading were observed by teachers. (MKM)

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READING STRATEGY PROJECT

1974-1975 EVALUATION

FUND 58-86

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DIVISION OF RESEARCH AND DEVELOPMENT

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READING STRATEGY PROJECT

I. INTRODUCTION

Needs and Rationale

Strong concern for the economic future of today's children has continued to mount. Recent trends in the national employment scene have portrayed a bleak outlook for those who are graduates from the nation's high schools and colleges. Preparatory education continues to focus on the acquisition of basic reading skills by all pupils as a foundation for effective use of critical communication tools necessary for future success. The upgrading of reading skills has become a priority in assisting pupils in coping with the more complex comprehension tasks which lie ahead. The emphasis on the teacher as the key to excellence in reading became the theme of the 1974 International Reading Association which devoted its meeting to the issue of providing support for the classroom teacher's efforts to improve the reading levels of pupils.

The Cleveland Public Schools have demonstrated sensitivity to the educational needs of pupils and teachers in its schools. The Division of English, Language Arts of the Cleveland Public Schools' concern in relation to reading in the elementary grades resulted in the proposal of the Reading Strategy Program. This program was tailored to strengthen the reading needs of pupils in grades four, five and six, using a locally developed packet of diagnostic-prescriptive reading strategies, the Diagnostic Reading Probes.

Historical Background

The Reading Strategy program was proposed and funded under Title I in January, 1974. Planning and recruitment of staff began immediately and

the program was implemented in 42 public and nine non-public schools in March, 1974. The project served 5,583 pupils in the initial project year.

Summary of Operations

This evaluation focuses on the first full year of operations. A total of 7,698 pupils in 46 public and eight non-public schools was served. Staff included a project manager, five reading strategists, one psychologist, two speech therapists, 51 supportive teachers, 28 tutors from the Resident Tutor Program and one clerk.

The program provided diagnostic reading procedures using criterion-referenced tests from the Diagnostic Reading Probes, skills reentry prescriptive instruction, drill materials and the special supportive services of a psychologist and speech therapist, upon request.

Total costs for the project were $761,241 which yielded a per pupil cost of $98.89 based on project services to 7,698 pupils. This amount was beyond the regular reading program's per pupil cost of $153.67 for formal reading in grades four, five and six, representing 25 per cent of total teaching time.

Questions to be Answered by Evaluation

1. What per cent of participating pupils achieved the 80 per cent mastery levels on the Diagnostic Reading Probes posttest appropriate for identified areas of reading skills weaknesses?

2. Were there observed positive changes in reading attitudes and motivation according to teacher ratings for three out of four pupils?

3. Were significantly improved attitudes toward reading perceived by teachers during the period of pupil participation with project staff?

4. To what extent did participating fourth grade teachers reflect awareness of changes in pupils' reading behaviors as a measurement of pupil growth in reading based upon teacher ratings on the Rowell Attitude Scale (modified)?

5. How many pupils maintained or improved their reading stanine status, based upon scores received in city-wide standardized testing?

6. How many participating pupils maintained or improved their stanine standings based on reading test scores in city-wide testing?

7. How did parents, teachers and principals perceive the effects of this project's efforts to upgrade the reading skill weaknesses of participating pupils?

II. HIGHLIGHTS OF FINDINGS

Summary of Key Findings.- The Reading Strategy project operated in 46 public and eight non-public schools during the 1974-75 regular school year. This project served 7,698 pupils. Evaluation was directed toward determination from test data and the subjective opinions of parents, teachers, principals and project staff the extent to which the project had met its product objectives. Findings drawn from evaluation procedures were:

1. OBJECTIVE ONE

   Three out of four participating pupils will achieve an 80 per cent mastery level on the Cleveland Public Schools Diagnostic Reading Probes posttest series selected by the classroom teacher.

Findings:

Based on a sample of 85 students, it was determined that 82 per cent of fourth grade and 80 per cent of fifth grade participants attained the objective criteria based upon pre and posttest Diagnostic Reading Probes criterion tests of randomly selected pupils in the evaluation sample.

Stanine placements for these pupils on standardized tests reflected stanine four status in comprehension for the fourth grade sample on the Comprehensive Test of Basic Skills, Level II, Form Q, city-wide testing.

It was further determined that the 53.7 per cent of the sample maintained and/or increased their stanine status from third to fourth grade, based upon a comparative study of test results from the Comprehensive Test of Basic Skills, Level I (end of third grade) and Level II, (end of fourth grade).

Significant differences existed between pre and posttest diagnostic test results for pupils in the fifth grade sample, derived from statistical analysis of test results from the Stanford Diagnostic Reading Tests. Stanine status rose from stanine three to stanine five in literal translation and inference (comprehension).

Pupils in the sixth grade evaluation sample achieved average stanine four status in comprehension on the Comprehensive Test of Basic Skills, Level II (city-wide testing program). Entry level status was stanine two on the Stanford Diagnostic Reading Test.

2. OBJECTIVE TWO

Three out of four participating pupils will show a more positive attitude and increased motivation according to classroom teacher ratings.

Findings:

Teacher ratings of overall reading improvement revealed 84 per cent of 847 pupils had shown from "some" to "very marked" positive directional changes in reading attitude. In like manner, positive directional changes had been observed for 78 per cent of 1,014 pupils. Ratings in attitude were not assigned for 167 pupils by classroom teachers and for 52 pupils in the total sample of 1066 pupils.

3. OBJECTIVE THREE

Participants will show significantly higher attitudes toward reading based on teachers' perceptions of changes in individual pupils reading behaviors at the termination of the service period.

Findings:

Ratings of pupils' changes in reading behaviors by classroom teachers included subjective opinions of reading improvement and attitude toward reading. Results from this rating scale showed that teachers observed from "some" to "very marked" improvement for 96 per cent of an evaluation sample of 1,066 pupils.

4. OBJECTIVE FOUR

Three out of four participating fourth grade teachers will reflect greater awareness of changes in pupils' reading behaviors as one measurement of pupil growth in reading based upon teacher judgment.

Findings:

Results from the Rowell Attitude Scale rated by classroom teachers and Reading Strategy teachers were statistically analyzed for a randomly selected sample of 276 pupils. The findings reflected a t ratio of 4.81 for differences between mean ratings from Reading Strategy teachers and 7.35 for differences between mean ratings assigned by classroom teachers. Both t ratios were significant beyond $p \leq .0005$.

The opinions of parents and principals were sought through opinionnaires as vital to this evaluation.

Principals felt that the Reading Strategy approach had been effective in the improvement of pupils' reading weaknesses. They saw the operational style of this project as significant in providing support for the reading efforts of pupils. They stressed the satisfactory degree of relativity of instruction to pupils' reading needs and observed high enthusiasm on the part of most pupils.

Parents found their children reading better with greater confidence in their ability to read. They observed much better understanding of reading skills and a preference on the part of their child to demonstrate reading ability by reading aloud.

Recommendations.- Recommendations were drawn from all audiences involved in the project - parents, teachers, project staff and principals, and the interpretations drawn from evaluation results. It is recommended that:

1. The Reading Strategy Project continue in Cleveland schools.
2. Participating classroom teachers and Reading Strategy teachers meet together in orientation sessions.
3. efforts should continue to clarify the role of the Reading teacher with school principals and classroom teachers.
4. a survey of classroom teachers might prove fruitful in ascertaining additional lessons needed in the Diagnostic Reading Probes.
5. the project continue its present operational style and format.
6. additional tutors be assigned to the project.
7. emphasis should continue with school administrators that the operation of this project must adhere to the operational setting proposed to Title I.

III. PROJECT CHARACTERISTICS

The Stanford Diagnostic Reading test is routinely administered to all pupils in grades four, five and six, early in the year, as part of the city-wide testing program. The results reflect pupils' individual reading skill strengths and weaknesses. Generally, pupils are of average and above average scholastic abilities. However, these pinpointed deficiencies in some reading skill strands are considered inhibitors to reading performances in the classroom for some pupils.

Stanine status below stanine four, (the lower end of the average stanine band) was judged sufficient evidence that a weakness existed within the child's total reading structure. It was further determined that not all children were deficient in the same skill strands. The Reading Strategy project was designed to promote assistance to pupils and their classroom teachers in that it provided:

- an action-plan which assured pupils of continued reinforcement in reading skills in line with their present reading program.
- additional staff, Strategy Teachers and tutors, to carry through special reading skills development for those pupils whose city-wide diagnostic reading test scores identified below-average reading skill strands.

Project Operations

The Division of English and Language Arts developed the Diagnostic Reading Probes as a package of reading strategies for the classroom teacher. Directed lessons in specific reading skill strands were presented to the class by the classroom teacher. Following the initial presentation, Reading Strategy teachers provided individual and small group assistance

in further lesson development, practice and drill. Criterion-referenced tests, part of the Diagnostic Reading Probes, provided benchmark assessment of pre-status and mastery levels at given points in time. Reading Strategists, provided consultation, guidance, and liaison between staff, teachers and principals. Special services were provided by two speech therapists and a psychologist upon referral requests. Interpretation of these special evaluations was provided to project staff, principals and teachers to strengthen the effectiveness of the teaching process with pupils.

Tutors from the Resident Tutor Project were trained by the Reading Strategy program and provided additional reinforcement and drill on a one-to-one basis.

All operations of this project were supervised and administered by the project manager.

Originally, an intensive skills unit component had been developed for sixth grade classes in which class schedules were to have been adjusted to provide a block of time for intensive reading and language arts skills development. The logistics of the number of classes, at the fourth and fifth grade levels designated as priority, in project schools filled the time frame of the Reading Strategy teachers' schedules at most schools. In those schools where smaller numbers, of fourth and fifth grade classes permitted service to sixth grades, those classes received the operational strategy as proposed for fourth and fifth grade classes. Tutors worked with a total of 93 sixth graders under the supervision and direction of the Reading Strategy teacher assigned to that school.

IV. EVALUATION

The Reading Strategy evaluation for the first full year of operations, 1974-75, concerned itself with providing information based upon data drawn from project records, test data from the criterion-referenced Diagnostic Reading Probes, the Rowell Scale of Reading Attitudes and the subjective opinions of parents, teachers and school principals. In addition, evaluation sought project staff perceptions of their roles as another dimension of measurement of project implementation, based upon 1974-75 school-based project operations.

Appropriate statistical tests were applied to all data to determine levels of significance and directions of change.

Project objectives included:

1. Three out of four participating pupils will achieve an 80% mastery level on the Cleveland Public Schools Diagnostic Reading Probes post test series selected by the classroom teacher.

2. Three out of four participating pupils will show a more positive attitude and increased motivation according to classroom teacher ratings.

3. Participants will show significantly higher attitudes toward reading based on teachers' perceptions of changes in individual pupil's reading behaviors at the termination of the service period.

4. Three out of four participating fourth grade teachers will reflect greater awareness of changes in pupils' reading behaviors as one measurement of pupil growth in reading based upon teacher judgment.

Project enrollment included 7,447 public school and 251 non-public school pupils in grades four, five and six. Mean scholastic aptitude for

the 253 fourth grade evaluation sample was 89.12 and 95.58 for the fifth grade sample of 91 pupils.

At fifth grade level scholastic aptitude scores were available for 62 of the 91 pupils in the sample. It may be assumed that scholastic aptitude scores for the remaining 19 pupils were not available due to probable "records-in-transfer" from other Cleveland schools or new entries from out-of-state. Table 1 presents project enrollment.

TABLE 1

READING STRATEGY PROJECT
PROJECT ENROLLMENT
1974-1975

Schools	GRADES			
	Four	Five	Six	Total
Public	3432	2674	1341	7447
Non-Public	93	70	88	251
SUMMARY	3525	2744	1429	7698

The operational style of the project for sixth grade classes changed during the 1974-75 project year due to circumstances beyond control. Evaluation of sixth grade participants was limited to status on city-wide testing.

Results from the Stanford Diagnostic Reading Test, Level II were the base of eligibility for project participation. Pupils whose reading weaknesses were revealed through test stanines below four in the in the reading area components of the Stanford Diagnostic Reading Test became project participants.

Fourth Grade.- The reading skill weaknesses of fourth grade pupils, whose diagnostic test performances pl..ced them in stanines one, two and three, had been verified early in September, 1974 at the time of administration of the Stanford Diagnostic Reading Test, Level II. The fourth grade evaluation sample consisted of 253 Reading Strategy participants.

The mean scholastic aptitude score for the group was 89.12, which placed them within the band of average scholastic aptitude. Stanines yielded for means of raw scores from the Stanford Diagnostic Reading tests documented below-average reading skills' performance for the sample. The means and accompanying stanines are reported in Table 2.

TABLE 2

MEANS OF RAW SCORES AND STANINES
STANFORD DIAGNOSTIC
READING TESTS
GRADE FOUR
Level II

N=253

Subtest	Raw Score Mean	Standard Deviation	Stanine	Standard Deviation
Comprehension	27.46	6.83	2.0	.88
Vocabulary	17.04	4.71	2.02	1.11
Auditory-Discrimination	25.15	9.74	2.49	1.52
Syllabication	10.44	3.74	2.59	1.58
Beginning and Ending Sounds	24.91	4.91	2.59	1.30
Blending	21.94	8.15	3.06	1.57
Sound-Discrimination	16.66	6.14	2.64	1.37

Test information contained in Table 2 clearly established pupils' eligibility for service from project staff. The design of the instructional format of the Reading Strategy project was one which utilized criterion-referenced Diagnostic Reading tests, locally constructed, to identify degrees of accuracy within sub-skill areas of comprehension, vocabulary, auditory discrimination, syllabication, beginning and ending sounds, blending, and sound discrimination.

It was determined that a total of 233 pretests were administered in those reading sub-skill areas included in the Diagnostic Reading Probes test series. Comparison with posttests, which indicated the prescribed 80 per cent mastery level established in the objective, provided evidence that the objective had been attained. The objective proposed that three out of four participating pupils would achieve the criterion after instruction from the classroom teacher and additional support from the Reading Strategy Teacher for pupils in stanines one, two and three. Results of pre and posttesting with the Diagnostic Reading Probes tests were presented in Table 3, and reflects attainment of the objective by 82.5 per cent of a randomly selected evaluation sample of 85 pupils' Probes criterion tests.

TABLE 3

PRE AND POSTTESTS RESULTS
DIAGNOSTIC READING PROBES
CRITERION TESTS
GRADE FOUR
N=85

Skill Area	N Pretests Administered	Per Cent Total Sample	N Posttest with Accuracy Levels	Per Cent Total Sample
Comprehension	44	51.8%	23	27.1%
Vocabulary	22	25.9%	18	21.2%
Auditory-Discrimination	61	71.8%	53	62.4%
Syllabication	36	42.4%	33	38.8%
Beginning and Ending Sounds	1	1.2%	1	1.2%
Blending	21	24.7%	21	24.7%
Sound Discrimination	48	56.5%	41	48.2%
Average	33.3	39.2	27.1	31.9
N Pupils	33		27	
Average N Pupils Mastery Levels				81.8

The objective was attained.

A panel of experts in the field of education addressed itself to "Issues and Application in Criterion-Referenced Testing" at the 1975 International Reading Association. One issue addressed by a panel member[1] was that of relating criterion-referenced test results to some description of distribution within the normal curve as determined by norm-referenced testing.

[1] Tuinman, J. Jaap. "Issues and Application in Criterion-Reference Testing Pre-convention Institude #8. Twentieth Annual Convention, May 13-16, 1975. New York, New York.

Stanines and standard deviations from standardized achievement test results have been utilized in this evaluation as a description of the distribution within the normal curve. The Comprehensive Test of Basic Skills, Form Q, Level II was administered to all fourth grade pupils in the spring of 1975 as part of city-wide testing. Scores, for a sample of 108 participants were analyzed for means of raw scores and stanines. Comparison of fourth grade stanine status with that from third grade city-wide testing Level I, Form Q, in the previous year was expected to serve two purposes. Information drawn in the 1974-1975 data collection process would serve to initiate a follow-up study of participants' reading performances as they continue through grades five and six, where additional data becomes available. In addition, this information was deemed pertinent to the question of how many participants maintained or improved their reading stanine placements from third to fourth grades on the more difficult form of the Comprehensive Test of Basic Skills. Table 4 presents findings from this analysis.

TABLE 4

AVERAGE STANINE PLACEMENT
COMPREHENSION TEST
OF BASIC SKILLS
Levels 1, and 2,
Form Q
N=108

Test Level	Vocabulary	Comprehension
1	5.54	4.37
2	4.41	3.98

It may be assumed that the reading performance of participants would have regressed dramatically in the fourth grade had they not had the support of the Reading Strategy program. It was further determined that 56.4 per cent of the sample maintained or increased their reading stanine status in vocabulary and 53.7 per cent maintained or increased stanine status in comprehension.

Project staff and administration gained early recognition that the major task was in the area of comprehension. The instructional plan was changed to foster increased emphasis on comprehension skills as reading skill areas were re-entered.

Fifth Grade.- Examination of pupil progress records for 65 randomly selected pupils in the fifth grade sample mirrored instruction from project staff in five of the seven reading skill areas covered in Diagnostic Reading Probes, in accordance with pupils' varified reading needs. A tally of individual reading skills based upon pre and posttest results from the Probes criterion-referenced tests was made. It was determined that Reading Strategy teachers administered 202 pretests to the 65 pupils in this sample. According to test data, this samole of pupils demonstrated specified levels of accuracy on 161 posttests. The objective stated:

> Three out of four (75 per cent) participating pupils will achieve an 80 per cent mastery level on the Cleveland Public Schools Diagnostic Reading Probes posttest series selected by the classroom teacher.

Eighty per cent of the group of fifth graders, whose test results were reviewed achieved the objective's criteria. In the process of analysis of pre and posttests it was noted that the highest number of reading skill weaknesses lay in the areas of comprehension, auditory-visual discrimination and sound discrimination. None of the pupils reflected weaknesses in beginning and ending sounds. Table 5 presents the summary. It must be recognized that profiles generated for each pupil mirrored a multiplicity of reading weaknesses. The instructional design group of this project is targeted toward small group instruction in which children whose reading skill weaknesses appear within reading strands, received supportive instruction in that strand following presentation lessons initiated by the classroom teacher. Individualization occurred within the group. The summary at the bottom of the chart reflects the per cent of pupils who achieved the objective's criteria for mastery of specific reading skills.

TABLE 5

PRE AND POSTTEST RESULTS
DIAGNOSTIC READING
PROBES TESTS
GRADE FIVE
N=65

Skill Area	N Pretests Administered	Per Cent Total Sample	N Posttest with Accuracy Levels	Per Cent Total Sample
Comprehension	39	60.0%	20	30.8%
Vocabulary	35	53.9%	27	41.5%
Auditory-Visual Discrimination	44	67.7%	40	61.5%
Syllabication	36	53.4%	33	50.8%
Sound Discrimination	48	73.9%	41	63.1%
Average	28.9	61.5%	23.0	49.2%
N Pupils		40		32
Avcrage N Pupils Mastery Levels				80.0%

Fifth grade classes were not included in the city-wide achievement testing during the 1974-75 school year. It was felt that one appropriate measurement of pupil progress would stem from a comparative study of the degree to which the diagnostic levels of comprehension had changed over the span of the project year for the evaluation sample of fifth graders. In accordance, project staff administered the comprehension subtest of the Stanford Diagnostic Reading Test, Level II in May, 1975 to a random sample of fifth grade pupils. Statistical procedures were applied to determine levels of significance of test scores for the literal and inferential subtests, which compose the area of

comprehension on the Stanford Diagnostic Reading Test. It was determined that levels of significance did exist beyond the p. $\leq$ .0005 level of probability. The findings are presented in Table 6.

TABLE 6

LEVELS OF SIGNIFICANCE PRE AND POSTTESTING
LITERAL AND INFERENTIAL
COMPREHENSION SUBTESTS
STANFORD DIAGNOSTIC
READING TEST
N=91

$\leq$ p. $\leq$ .0005

Subtest	Raw Score Mean	Standard Deviation	Degrees of Freedom	t Ratio	Decision
Literal	Pre 9.3187	4.250	90	11.11	significant
	Post 16.4176	4.801			
Inferential	Pre 8.3077	6.634	90	5.53	significant
	Post 13.4505	4.631			

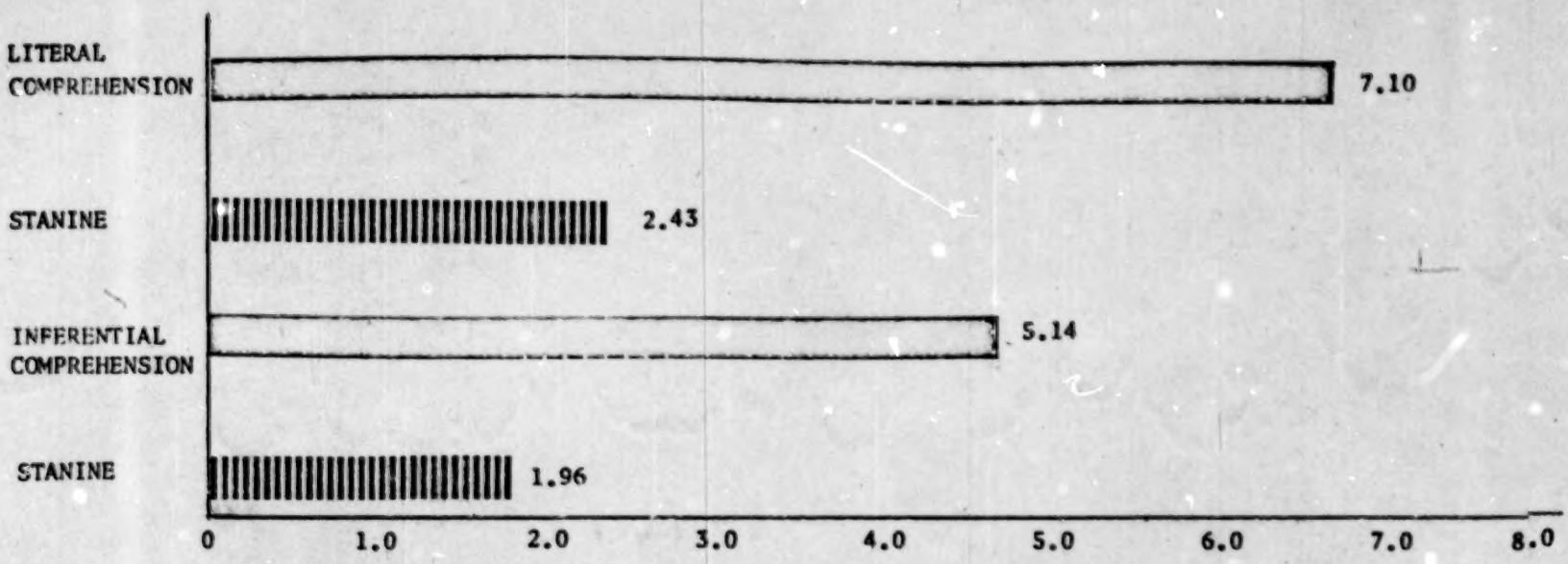
Differences between means of raw scores and stanines show the amount of gain between pre and posttest results. It was apparent that stronger gains were made in the literal translation subtest than in the inferential subtest. Stanine placements rose from three to five in literal translation and inference. Differences between means of subtest raw scores and stanines are presented in Chart I.

It may be interpreted that project efforts with this sample of fifth graders proved effective in improving levels of comprehension through

planned instruction directed toward sub-skill areas of reading in which reading skill weaknesses were verified by standardized diagnostic testing.

CHART I

DIFFERENCES BETWEEN PRE AND POSTTEST MEANS
OF RAW SCORES AND RELATED STANINES
LITERAL TRANSLATION AND
INFERENCE SUBTESTS
STANFORD DIAGNOSTIC
READING TESTS
N=91



	LITERAL COMPREHENSION		INFERENTIAL COMPREHENSION	
	RAW SCORE MEAN	STANINE	RAW SCORE MEAN	STANINE
Pretest	9.32	2.77	8.31	2.98
Posttest	16.42	5.20	13.46	4.93

Subtest

Stanine

Grade Six.- A random sample of 82 sixth graders from schools, where Reading Strategy teachers and tutors worked with sixth grade pupils, was chosen. Scheduling problems in sixth grade classes made implementation of the intensive instruction component plan not feasible. It was deemed pertinent to focus evaluation efforts at the sixth grade on stanine placement status of the sample at entry based upon results from the Stanford Diagnostic Reading Test and their stanine status from the Comprehensive Test of Basic Skills administered in city-wide testing in February, 1975. It was noted that reading skill strands selected by classroom teachers were comprehension, vocabulary, syllabication, blending and sound discrimination. The summary showed average stanine two status for the sample in comprehension and vocabulary, (1.57 comprehension and 1.96 vocabulary).

Test results from the Comprehensive Test of Basic Skills revealed achievement test average stanines of three (3.00) in vocabulary and four (4.02) in comprehension. While it is recognized that the two tests considered in this study were different, the test information provided descriptors which demonstrated the impact of the project's strategy with sixth grade pupils. It may be interpreted that pupils, who had reached sixth grade and had pronounced reading skill weaknesses which placed them in below-average stanine status, did indeed benefit from the Reading Strategy program. The strategy included an instructional plan based upon the Diagnostic Reading Probes in which a pyramid of support from the classroom teacher, Reading Strategy teacher and tutor provided concentrated efforts. Table 7 shows the results.

TABLE 7

STANINE STATUS OF A SAMPLE OF
SIXTH GRADE PUPILS

September, 1974-June, 1975
N=82

Test	Subtest	Stanine Status	Subtest	Stanine Status
Stanford Diagnostic Reading Test Level II	Vocabulary	1.96	Comprehension	1.57
Comprehension Test of Basic Skills, Level II, Form Q	Vocabulary	3.00	Comprehension	4.02

RESULTS FROM THE ROWELL ATTITUDE SCALE

The Rowell Attitude Scale, [1] adapted for use in the Reading Strategy program by the Cleveland Public Schools Language Arts Division, was administered to fourth grade pupils whose Stanford Diagnostic Reading purposes for use of this instrument were threefold.

1. To focus the attention of the classroom teacher and the Reading Strategy teacher on reading behaviors of individual program participants in relation to specific reading situations in the classroom or special reading group.

2. To measure the strength of relationship between the ratings of pupils' attitudes by classroom and Reading Strategy teachers.

3. To determine the extent to which measurable changes in the reading behaviors of participants occurred from pretest to posttest administration of the Rowell Attitude Scale.

The sample included 276 participants, whose reading performances fell into stanines one, two and three on the Stanford Diagnostic Reading test administered in September, 1974 to all fourth graders in Cleveland public schools and the Iowa Test of Basic Skills in non-public schools. Seventy-one classroom teachers and 51 Reading Strategy teachers participated in the administration of the attitude scale. The ten item test contained five items which were rated by Reading Strategy teachers, (items one through five) and five items which were rated by classroom teachers, (items six through ten).

[1] Rowell, C. Glennon, "An Attitude Scale For Reading". The Reading Teacher, February, 1972. International Reading Association, Newark, Delaware. Volume V No. 11. February, 1972. 442-447.

Each item on the test became a factor in the attempt to estabish possible correlations between scores from pre and posttest rating assigned specific items on the test by the Reading Strategy and classroom teacher for selected pupils. The statistical technique of factor analysis was applied to locate and identify those factors which would account for the correlations observed between means of scale scores. A scale from five to one was set by which each item was rated. The ratings and their weights were:

Rating	Weight
. always occurs	5
. often occurs	4
. occasionally occur	3
. seldom occurs	2
. never occurs	1

Means of ratings assigned by Reading Strategy and classroom teachers for test items may be viewed in Tables 8 and 8a.

Factor analysis revealed two principal factors. These factors were identified as the pre and posttest ratings of the raters (Strategy teacher and classroom teacher). The strengths of these factors further indicated summation of the test scores for each section of ratings pre and posttest and the t test applied to determine levels of significance for differences between total score means.

Significant t ratios of 4.81 and 7.35, $p \leq .005$, were generated from the data. These t ratios were interpreted to indicate that there were significant changes between the means of pre and post test ratings assigned pupils' reading behaviors by Strategy and classroom teachers. Table 9 shows the difference between means of ratings for each test item.

TABLE 8

MEANS OF READING STRATEGY
TEACHER RATINGS

Items One Through Five

ROWELL ATTITUDE SCALE
(Adapted)

Grade Four
N=276

Item Content	Mean Rating	
	Pre	Post
1. Strong interest in special reading group.	4.08	4.27
2. Enthusiasm and interest in participation.	3.98	4.17
3. Application of retained and retaught reading skills.	3.41	3.78
4. Willing response to reading related questions.	4.01	4.20
5. Listening to others share reading experiences.	3.70	3.92
SUMMARY	3.84	4.07

Scale: Always Occurs - 5
Often Occurs - 4
Occasionally Occurs - 3
Seldom Occurs - 2
Never Occurs - 1

TABLE 8a

MEANS OF CLASSROOM TEACHER RATINGS

Items Six Through Ten

ROWELL ATTITUDE SCALE
(Adapted)

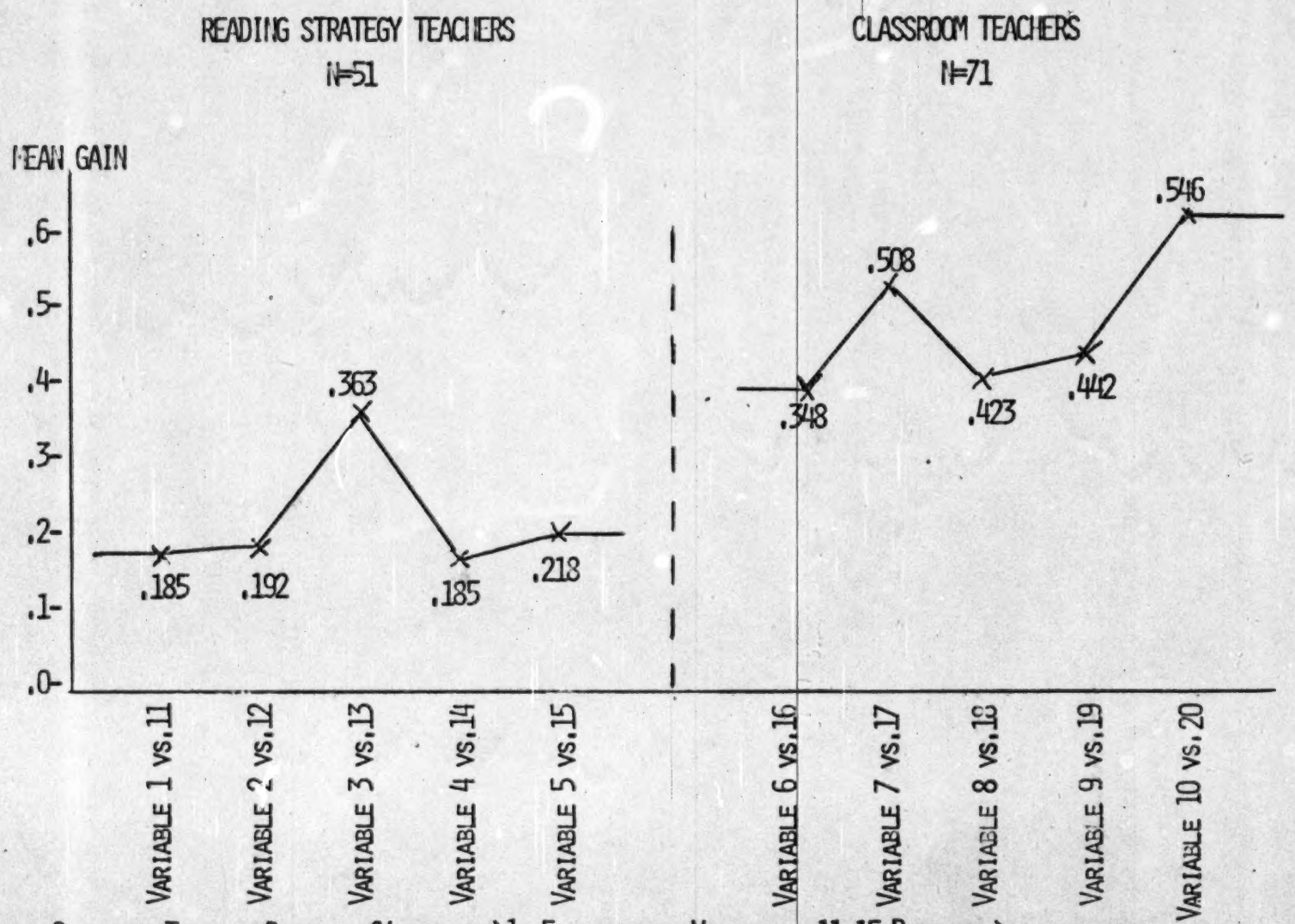
Grade Four
N=276

Item Content	Mean Rating	
	Pre	Post
6. Renewed interest in working with basal reading group.	3.39	3.74
7. Renewed effort to read other classroom reading materials.	3.25	3.75
8. Strengthened reading skills applied to available classroom materials.	2.92	3.34
9. Reading preferred as "free time" activity.	2.93	3.37
10. Interest shown in selection of books from classroom libraries.	3.40	3.70
SUMMARY	3.18	3.58

Scale: Always Occurs - 5
Often Occurs - 4
Occasionally Occurs - 3
Seldom Occurs - 2
Never Occurs - 1

TABLE 9
READING STRATEGY PROGRAM

DIFFERENCES BETWEEN PRE AND POSTTEST MEANS
ROMEIL ATTITUDE SCALE
GRADE 4, N, PUPILS-276



READING STRATEGY TEACHER RATINGS (VARIABLES) 1- 5, PRETEST; VARIABLES 11-15 POSTTEST)
CLASSROOM TEACHER RATINGS (VARIABLES 6-10 PRETEST; VARIABLES 16-20 POSTTEST) (VARIABLES ARE TEST ITEMS)

TABLE 10

LEVELS OF SIGNIFICANCE
ROWELL ATTITUDE SCALE
T VALUES AND PROBABILITIES
GRADE 4

α P $\leq$ .05=1.645

X	Y	T	N	DF	P $\leq$
1	11	3.03378	276	275	.00265
2	12	3.46717	276	275	.00061
3	13	5.59960	276	275	.00000
4	14	2.93146	276	275	.00366
5	15	3.57309	276	275	.00042
6	16	5.28620	276	275	.00000
7	17	7.27504	276	275	.00000
8	18	6.24659	276	275	.00000
9	19	6.01369	276	275	.00000
10	20	4.24236	276	275	.00000

Table 10 presents t values and probabilities for differences between means of pre and posttest assigned ratings. Table 11 presents summary information for total test scores and related t ratios.

TABLE 11

T VALUES AND PROBABILITIES
ROWELL ATTITUDE SCALE
N=276

≤ .0005 df=275

Variable	Pretest Mean	Standard Deviation	Posttest Mean	Standard Deviation	t Ratio	Probability Level
Supportive Teacher	20.32	3.53	19.18	3.31	4.81	.0000
Classroom Teacher	17.91	4.45	15.89	4.39	7.35	.0000

Observed differences between means showed wider variations between ratings assigned by classroom teachers than those of strategy teachers. Re-examination of Table 2 indicated further study of items 3, 7 and 10. It was also noted in Tables 1 and 1a that classroom teachers assigned higher ratings at pretest for variables which applied to classroom reading groups than did Strategy teachers for variables which applied to special reading group situations in which the same pupil was involved. Since all differences between means were in a positive direction, it may be interpreted that positive changes in the reading performances of Reading Strategy Program participants observed by classroom and Strategy teachers were not due to chance.

Correlations of .337 (items one through five) and .468 (items six through ten) existed with a two-tailed probability of p. ≤ .0005. Any

attempt to interpret these correlations must include consideration for two factors. Classroom reading environments were generally heterogeneous. While attempts were made to group pupils for reading as homogeneously as possible, it must be recognized that some heterogeneity remained due to the size of groups and reading time schedules. The Reading Strategy group was smaller by design and more control of homogeneity was possible due to program instructional format. The second factor concerns variation in constant value when the data is obtained from different sources.[2].

The Kuder-Richardson Formula-20 was applied to the data. Pretest reliability was .799 and posttest reliability .835.

[2] Guilford, J. P. Fundamemtal Statistics in Phychology and Education. New York: McGraw-Hill Book Company, 1965. p. 345-346.

OPINIONNAIRES

Principal's Opinionnaire.- Responses were received from 34 participating school principals. According to these principals the teacher complement in grades four, five and six totaled 239. Reading Strategy teaching staff worked with pupils from 185 of these classes.

Principals viewed the major aspects of the Reading Strategy program as:

- reinforcement of reading skills for pupils
- provision of a learning atmosphere in which undue pressure and competitiveness were eliminated
- use of the Diagnostic Reading Probes
- supportive services, instructional and special needs, for pupils
- removal of probable inferiority stigma since instructional process took place in the classroom
- presence of the strategy teacher in the classroom a great help to classroom teacher.

Principals were asked to rate the effectiveness of the Reading Strategy approach to the improvement of pupils' reading weaknesses. The following results were tabulated.

TABLE 13

PRINCIPALS' RATINGS OF READING STRATEGY APPROACH FOR PUPILS
N=34

Ratings	Per Cent	N
Extremely effective	23.5%	8
Very effective	52.9%	18
Somewhat effective	20.6%	7
Not too effective	2.9%	1
Not effective	0.0%	0

Expanding on their ratings, principals were asked to note the unique features of this program in the question:

What was different for pupils?

Principals saw evidence of program uniqueness in:

- an operational style in which two teachers worked with a child daily to develop special skill needs
- clearly stated objectives for each lesson fostered concentrated instruction
- frequent pupil-progress assessment
- materials and instruction tailored to individual needs
- parent conferences and workshops designed to familiarize parents with specific reading skills and to involve parents in the making of reinforcement materials for home use.

Principals also rated the effectiveness of the Strategy approach to improvement of pupils' reading weaknesses in terms of its effectiveness in fostering the teaching of reading skills by classroom teachers.

TABLE 14

PRINCIPALS' RATINGS OF READING STRATEGY APPROACH FOR TEACHERS
N=34

Ratings	Per Cents	N
Extremely effective	20.5%	7
Very effective	38.2%	13
Somewhat effective	20.5%	7
Not too effective	2.9%	1
Not effective	0.0%	0
No response	17.6%	6

Clarification of the ratings was found in principals' identification of factors considered different for teachers.

- sharing the room with the Strategy teacher
- planning and working with Strategy teacher
- receiving daily help with children whose Stanford Diagnostic test performances placed them in stanines one, two and three
- learning to redirect planning and teaching methods to fit individual reading needs of pupils
- using flexible grouping
- evaluating progress of those pupils receiving assistance from Strategy teachers
- forced instruction of reading skills by fourth, fifth and sixth grade teachers which had heretofore been considered as the responsibility of primary teachers.

Comments were based upon observation of project procedures within the schools by administrative personnel. Twenty-eight administrators reported having made these observations. Three reported no observation and three gave no response. One of the last group of three administrators had communicated her feelings to the project manager which were understandably negative concerning the situation at that school. This administrator preferred not to complete the opinionnaire. Principals provided ratings of the Reading Strategy instructional format to the following degrees:

TABLE 15

PRINCIPALS' RATINGS OF PROJECT INSTRUCTIONAL FORMAT
N=34

Ratings	Per Cents	N
Excellent	47.1%	16
Very good	23.5%	8
Good	11.8%	4
Less than expected	0.0%	0
Poor	0.0%	0
No response	17.6%	6

Ratings of relevancy of observed instructional activities to lesson purpose were considered.

TABLE 16

PRINCIPALS' RATINGS
RATINGS OF RELEVANCY
OF INSTRUCTION
N=34

Rating	Per Cents	N
Extremely relevant most of the time	38.2%	13
Relevant most of the time	35.3%	12
Somewhat relevant most of the time	8.8%	3
Less than relevant most of the time	0.0%	0
Not relevant most of the time	0.0%	0
No response	17.6%	6

Pupils enthusiasm for the learning experience was assumed one indicator of their acceptance of instruction as pertinent to their individual reading needs. Apathetic attitudes would presume rejection of the progress.

TABLE 17

PUPIL ENTHUSIASM FOR THE
LEARNING EXPERIENCE
BASED ON
PRINCIPAL OBSERVATIONS
N=34

Rating	Per Cents	N
Great enthusiasm by all pupils	14.7%	5
Enthusiasm by most pupils	58.8%	20
Enthusiasm by some pupils	5.9%	2
Little enthusiasm	2.9%	1
No enthusiasm	0.0%	0
No response	17.6%	6

Recommendations from principals included:

1. Early fall planning meetings should be held in each school by the Reading Strategist for the purpose of fostering effective organization and planning, explaining procedures and discussing materials.

2. In-service workshops for teachers, tutors and parents should be held at least once during each semester.

3. Extend service and include all upper elementary classes.

4. "Leave program alone! Don't spoil it!"

5. Continue fine efforts.

6. Early emphasis on comprehension is needed in sixth grade

7. Greater variety in materials is needed.

8. Consideration should be given to the large number of pupils in each class the Reading Strategy teacher has to reach.

There were indications in the recommendations of some principals that the operational style of the project posed some problems in terms of

the presence of two teachers in the classroom. While the greater majority of principals recognized the value of the work of Strategy Teachers with selected pupils, many felt that the role of the classroom teacher was threatened.

Comments from four principals emphasized that:

- prime factor in the progress of pupils is the classroom teacher
- too much confusion when two teachers teach in the same room
- a need to strengthen the cooperative efforts of the classroom teacher and strategist exists
- teacher's judgment as well as test scores should have bearing on who should receive help.

These comments show that continued efforts must be expended to assure that basic criteria concerning school designation, pupil selection procedures, and operating mechanics of the program are adhered to as proposed to and approved by the State Title I office.

OPINIONNAIRES

Teacher Opinionnaires.- Remediation and reinforcement of specific reading skills, in which diagnostic reading test scores reflected low performance, appeared to be classroom teachers' general interpretation of the major thrust of the Reading Strategy program. The evaluation sample of 48 teachers represented teachers of 1,409 pupils in grades four through six Class sizes ranged from 21 to 39 pupils. The numbers of pupils served by the program ranged from three to 38 per class. It must be understood that the rationale of the instructional program did not permit whole class instruction. In the analysis of the numbers of pupils served by the program from each class there were instances in which the total number of pupils served was 100 per cent. Since program criteria required placement in stanines one, two, and three on the Stanford Diagnostic Reading Test which includes five specific reading skill subtests in addition to vocabulary and comprehension, it was possible that at some given point all pupils from a given class could have received assistance from this program for a specific reading skill deficit in one or more reading strands.

Teachers indicated that they assisted project efforts by working closely with the Reading Strategy teacher through initially introducing those reading skill strands to their classes in accordance with the teaching strategy of this program. Many teachers pointed out their efforts to extend the learnings,which participating pupils gleaned from the strategy teachers' with further lessons. More independent reading of library books and other supplementary materials were encouraged. Additionally, teachers planned regular reading lessons and seatwork to reinforce skills taught in the Probes.

Subjective assessment of pupils' progress was sought through rating scales included in the opinionnaire. Teachers were asked to rate participating pupils in terms of very marked, marked, some, little and no improvement in overall reading performance. Responses received reflected teachers' ratings for the 1,066 pupil sample.

TABLE 18

TEACHER RATINGS OF OVERALL READING IMPROVEMENT
N=1066

	Very Marked Improvement	Marked Improvement	Some Improvement	Little Improvement	No Improvement
N	174	349	446	71	27
Per Cent	16.3%	32.7%	41.8%	6.7%	3.5%

At this point in time of program operation, it was felt that some direction of change in two reading behaviors would have become obvious to classroom teachers. Therefore, teachers were asked to rate changes in attitude toward reading and the degree of self-motivation observed for pupils in this sample. Results showed that 857 (84 per cent) of 1,018 pupils for whom ratings were given, had shown from "some" to "very marked" positive attitudinal changes toward reading. No ratings were given 48 pupils by their teachers in terms of this reading behavior. Increased self-motivation toward the reading process was noted for 841 (78 per cent) of 1,014 pupils. No ratings were accorded 52 pupils.

The summary of ratings in reading behaviors showed that the objective as stated was attained.

> Three out of four participating pupils showed a more positive attitude and increased motivation according to classroom teacher ratings.

Table 19 presents teacher ratings and changes in the two reading behaviors.

TABLE 19

TEACHER RATINGS OF CHANGES IN
READING BEHAVIORS
N=1066

Reading Behavior	Very Marked Change	Marked Change	Some Change	Little Change	No Change	No Rating
Attitude toward Reading	152	230	475	151	10	48
Per Cent	14.3%	21.6%	44.6%	14.2%	.09%	4.9%
Increased Self-Motivation	156	232	453	131	42	52
Per Cent	14.6%	21.8%	42.5%	12.3%	3.9%	4.9%

Nineteen teachers found the program extremely helpful to them in in their classrooms. Two teachers found the program of no help to them.

TABLE 20

DEGREE OF PROJECT HELPFULNESS TO TEACHERS
BASED ON TEACHER SELF-REPORT
N=48

	Extremely Helpful	Very Helpful	Somewhat Helpful	Limited Help	Not Helpful
Teacher	19	14	9	4	2
Per Cent	39.6%	29.2%	18.8%	8.3%	4.2%

Teachers generally suggested continuation of the program in recognition of the improvement participating pupils had made. The following suggestions were considered expressive of summarized suggestions from teachers' opinionnaires.

1. The project is helpful. I would like to see the Reading Strategy teacher include some extra lessons in the section of the Probes on paraphrasing.

2. It would be helpful if it were possible for the same strategy teacher to return to the school each year.

3. There should be enough Strategy teachers that each upper elementary child could be exposed to and benefit from diagnostic reinforcement.

4. More tutors to provide individual drill and practice.

5. The size of the classroom was small for the large class. It would have been more helpful if the group could have been taken out of the room. Some children found it difficult working with two teachers in the classroom.

6. In view of noticeable progress pupils made, I think the program should be expanded.

7. In my class, 97 per cent of the pupils needed the Probes. There is too much confusion and waste of time with so many programs that take children out of the classroom. The Reading Strategy program is a beautiful program, and very helpful to teachers because of its compact lessons and tests.

Parent Opinionnaires.- Parents have expressed growing concerns about the reading performances of their children, particularly those approaching middle school levels in terms of their abilities to understand subject matter content. It was felt that input from fifth grade parents would provide the project with a valuable assessment of degree to which parents felt the reading needs of their children had been met. A second factor considered in targeting fifth grade parents was the fact that many fifth grade pupils were prior participants in the fourth grade during the second half of 1974 when the program opened. Parents would have observed their children's reading growth over a longer period of time. The sustaining power of project efforts should have become evident in the span of time the program has been in operation.

The parent sample of 35 respondents had 17 sons and 18 daughters in the Reading Strategy program. The majority of parents, 54.2 per cent, felt that the program had given much reading help to their child. Many expressed their appreciation for the manner which their child had received the kinds of assistance which led to reading improvement.

Parents were asked to share their child's opinion of help received from the Reading Strategy teacher. Responses were:

- child reads better and has more confidence in his ability to read
- comprehension much improved
- vocabulary larger
- much better understanding of reading skills
- teacher's patience seems to mean so much to him.

One parent reported that the child had said,

> "I can hear and recognize my middle sounds now. I have learned to divide words into syllables. Reading is easier now."

Asked to tell how they knew their child was reading better, parents listed:

- preference for reading aloud
- reads more clearly
- words are more distinct
- child was able to read aloud a verse from the Bible in Sunday School for the first time
- better grades
- reads newspaper independently and talks about it
- no more stumbling over words.

Eight parents reported having attended parent meetings, four attended workshops. Many parents expressed regrets that they had been unable to attend conferences and workshops due to employment. Twelve parents had talked with the Reading Strategy teacher about the child's reading progress. Two parents had conferred with the psychologist and four with the Speech Therapist.

Parents were generally "grateful" their children had the opportunity to participate in the program. Other wished all children had a chance to participate. Several parents expressed a desire that children be granted permission to bring their books home. Children were highly motivated by this program, was an opinion reported by most parents.

Staff Perception Survey.- This instrument was designed to ascertain the depth of understanding of staff roles based upon experience. It was hypothesized at the time of program implementation that a large measure of success in school implementation of this program could be assured, if staff knowledge of job roles was highlighted and reinforced to the extent that feelings of insecurity, natural to functioning in a new assignment, were minimal.

Reading Strategists perceived themselves as elaborators of suggestive techniques of teaching reading skills as presented in the Reading Probes Skill book. Tasks related to their role involved direction and support for Reading Strategy teachers in small group instruction, and conducting inservice for classroom teachers new to the program's procedures substance. Planning and participation in monthly in-service meetings for Reading Strategy teachers in addition to observation of and assistance to tutors were considered vital to full implementation of the project. Strategists became the promoters of project communication with principals, classroom teachers and project teachers.

The role of the psychologist and speech therapist remained that of providing diagnostic information concerning referred pupils in their special fields, interpreting results and providing prescriptive and corrective materials. Conferences with participating classroom teachers and school principals were held to facilitate a better understanding of the child's reading difficulties in the classroom in light of the nature of the special problem involved.

Reinforcement of Probes lessons, presented to classes by classroom teachers, was a major job responsibility, according to Reading Strategy teachers. The instructional task of strengthening and rebuilding pupils' reading skills, identified from Stanford Diagnostic Reading Tests results was critical to the selection of appropriate lessons strands. Strategy teachers reported that they had assisted classroom teachers as proctors in the administration of the Stanford Diagnostic Reading test, compiling class record sheets and analysis charts. They have also proctored the Comprehensive Tests of Basic Skills in city-wide testing, at the discretion of the school-assigned principal, where inadequate school resources for such service created a need.

Tutors viewed their task as that of attempting to motivate children's attitudes toward a more positive reaction to themselves as well as school. Tutoring small groups of pupils permitted more intensive review and additional reinforcement of skill lessons which the Reading Strategy teacher had previously taught.

Responses to the opinionnaire item which sought to determine the extent of the in-staff interaction showed that all project staff participated in two orientation sessions at the beginning of the year. Monthly inservice meetings provided opportunities for further growth through exchange of ideas, discussion of areas of concern and the presentation of techniques of instruction and ideas that had proven fruitful in dealing with specific disabilities. Special service staff, speech therapists and psychologists, conducted sessions in while their roles were interpreted and procedures in their specialized fields interpreted. It was the nature of this staff to interact formally in conferences when needed and informally in small groups as occasion arose.

Comments from two strategists appeared to reflect the core of opinions. The comments were:

- close, effective interpersonal cooperation and direction from project staff which encouraged me to carry out my role according to project guidelines
- cohesiveness and cooperative planning of all staff members in regard to project procedures and activities including the sharing of creative ideas and effective teaching techniques with project teachers.

Psychologists and speech therapists found staff conferences and in-service excellent opportunities to familiarize other staff members with concepts that needed to be commonly understood if evaluation reports were to be communicated effectively.

Reading Strategy teachers welcomed in-service and conference time as avenues through which:

- ideas and teaching techniques were shared
- individual problems were discussed
- positive reinforcement for the job-at-hand was given
- better definition of goals were offered
- clarification of project guidelines was promoted.

Tutors found their inclusion in in-service activities and conferences with staff valuable in that they found their difficulties not uncommon to those of persons with greater training and experience. The encouragement received from project staff was a meaningful contribution to their awareness that they were making a worthwhile contribution to helping pupils through their tutoring efforts.

As one tutor stated:

> The meaningful contribution to my effectiveness was to bring out problems existing between tutor and the child and finding ways to help the child.

Each staff person was asked to assess how their role assisted the project in achieving its objectives. Key comments included:

- fostered better understanding of program and its goals
- provided direction, guidance and support for strategy teacher (Reading Strategists)
- supported Reading Strategy teachers in their efforts with "difficult" children (Psychologists)
- assisted in the development of diagnostic, prescriptive plans for children identified as "special needs" children (Speech Therapists)
- worked with children on individual reading skill needs until those skills were mastered
- gave assistance to teachers
- sought to improve pupil confidence and to improve attitudes.

As one project teacher stated:

> "Hopefully, I have provided appropriate and concentrated work with pupils so that they have skills clearly and firmly in their minds to the extent that there is a demonstrable improvement in their ability to read. I have served as an informative liaison that the project may function in a manner satisfactory to both the project staff and classroom teachers."

Tutors noted their contribution as:

- offering individualized attention
- laying a good foundation for reading
- reinforcing the reading skills

- enabling the weaker pupil to read more often thus confronting the problem the child has to face in regard to reading rate or level.

All staff felt that the program had been of definite assistance in that it provided teachers with guided materials for lesson presentation, and added support of project staff and tutors, trained to continue the reinforcement process until pupil mastery levels had been achieved.

Recommendations - Project staff suggested:

- retention of pupils in the program for a stated period of time before release to other reading programs
- expand efforts to find ways to encourage greater understanding of project operations
- increase number of tutors assigned to schools with larger numbers of pupils evaluated by speech therapists and psychologists
- elimination of students from the program who are known attendance problems
- continuous revision of the Probes to include a wider variety of drill materials
- re-examination of time per group
- involvement of classroom teachers and strategy teachers in inservice meetings to increase classroom teacher involvement
- expand staff to provide assistance to more pupils.

Evaluation in the affective domain was introduced into the plan for evaluation with the use of the Rowell Attitude Scale, adapted for use, and the inclusion of teacher ratings of attitudes and reading behaviors of pupils, pre and post. Factor analysis of assigned ratings and statistical testing indicated significant positive changes in the ratings assigned pupils in specific reading behaviors. t ratios of 4.81 (Reading Strategy teacher ratings) and 7.35 (classroom teacher ratings were judged significant critical values at $p \leq .0005$. It was noted that classroom teachers assigned higher ratings, pre and posttest than did Reading Strategy teachers. Consideration must be given to the homogeneity of groups, size of groups and contact time when attempting to interpret the above finding. The Reading Strategy groups were composed of selected pupils whose reading performance status were stanines one, two or three. The peer classroom group would have been more heterogeneous even though attempts would have been made to group students according to reading ability.

Principals rated the Reading Strategy approach as generally very effective. They observed changes in teacher planning and use of methods which included progress assessment and teaching toward diagnostic reading needs. Project instruction was considered in terms of relevancy from "relevant most of the time" to "extremely relevant".

Most teachers found the project helpful to them and made suggestions for improvement based upon their classroom needs.

Parents, who responded to the parent opinionnaire saw their child reading better, understanding more of what was read and anxious to exhibit their new-found reading confidence.

Conclusions

The Reading Strategy Program achieved its product objectives in the 1974-75 project year. Project records indicated that 7,698 pupils in the Cleveland schools, public and non-public, were eligible for participation in the project, according to the criteria for pupil selection and received project assistance.

Results of the analysis of data from project pupil records, Diagnostic Reading Probes criterion tests, and standardized test information, were used to document the extent to which the project mets its objectives.

Pupils, whom the project assisted were of average scholastic aptitude and evidenced a wide range of individual reading skill weaknesses. It was determined that 82 per cent of the fourth grade sample and 76 per cent of the fifth grade sample achieved mastery levels in specific reading skills. A comparative study of stanine status from standardized testing (city-wide), at the end of third and fourth grade, revealed more than half of the students maintained or improved stanine status over third grade status.

Levels of significant differences were statistically determined for differences between raw score means, at fifth grade level on test score data from a pre and post administration of the Stanford Diagnostic Reading test, Level II. t ratios of 11.11 in literal translation and 5.53 in inference were highly significant at $p \leq .0005$.

At sixth grade, the pupil evaluation sample, which reflected average stanine status of two in vocabulary and comprehension in September, 1974, stood in stanine three in vocabulary and four in comprehension on city-wide testing, which utilized the Comprehensive Test of Basic Skills.

Implications and Recommendations

Evaluation findings may be interpreted as positive indications that the process of implementing the Reading Strategy program was achieved. On-going monitoring of project activities and school-based operations increased levels of teacher competency in dealing with a variety of reading skills in the classroom. Information gained in the process of this evaluation prompted certain considerations and suggestions for the project. Mainly, these recommendations were drawn from project staff, classroom teachers, principals and parents. It has been recommended that:

1. The Reading Strategy Project continue in the schools.

2. Participating classroom teachers, and Reading Strategy teachers should participate in early orientation sessions, together.

3. Efforts should continue to clarify the role of the Reading Strategy teachers through the combined efforts of project staff and principals.

4. A survey of classroom teachers might prove fruitful in ascertaining additional lesson materials needed based upon classroom experience with the Diagnostic Reading Probes prior to updating the existing materials.

5. The project continue its present operational style and format as established in its year and a half of operation in grades four, five and six.

6. Additional tutors should be assigned to the project.

7. The project emphasize with school administrators the agreement to comply with project guidelines upon acceptance of the project.

APPENDICES

APPENDIX I

READING STRATEGY PROJECT

Participant Enrollment
1974-1975
Grades 4, 5, and 6

Name of School	Project Enrollment
Public Schools	
1. Andrew J. Rickoff	196
2. Anthony Wayne	196
3. Boulevard	259
4. Buhrer	160
5. Charles Dickens	171
6. Daniel E. Morgan	164
7. Dike	197
8. Dunham	100
9. East Clark	172
10. East Madison	137
11. Gordon	121
12. Harvey Rice	183
13. Henry W. Longfellow	138
14. Hodge	160
15. Hough	189
16. John Burroughs	70
17. Joseph F. Landis	175
18. John W. Raper	165
19. Lafayette	196
20. Louis Pasteur	63

APPENDIX I (Cont'd)

READING STRATEGY PROJECT

Participant Enrollment
1974-1975
Grades 4, 5, and 6

Name of School	Project Enrollment
Public Schools	
21. Mary Bethune	159
22. Mary B. Martin	114
23. Miles	377
24. Miles Park	224
25. Mt. Auburn	183
26. Murray Hill	40
27. Oliver Wendell Holmes	164
18. Orchard	155
29. Parkwood	149
30. Paul Dunbar	160
31. Paul Revere	401
32. Quincy	103
33. Robert Fulton	182
34. Scranton	138
35. Stanard	74
36. Stephen E. Howe	147
37. Sowinski	351
38. Tremont	203
39. Wade Park	207
40. Walton	177

APPENDIX I (Cont'd)

READING STRATEGY PROJECT

Participant Enrollment
1974-1975

Grades 4, 5, and 6

Name of School	Project Enrollment
Public Schools	
41. Waring	77
42. Waverly	100
43. William H. McGuffey	85
44. Willow	89
45. Woodland Hills	176
Sub-Total	7447
Non-Public Schools	
46. St. Francis	48
47. St. Thomas Aquinas	33
48. Urban Community	30
49. St. Phillip Neri	24
50. St. Catherine	36
51. St. Michael	32
52. Mt. Pleasant Catholic	24
53. Our Lady of Mt. Carmel (East)	24
Sub-Total	251
GRAND TOTAL	7698

APPENDIX II

READING STRATEGY TEACHER RATINGS
FREQUENCY COUNT
N=276 Pupils

TEST ITEM	RATINGS															
	Always Occurs				Often Occurs				Occasionally Occurs				Seldom Occurs				Never Occurs			
	Pre		Post		Pre		Post		Pre		Post		Pre		Post		Pre		Post	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1. Interest in special reading group.	96	34.8	125	45.3	121	43.8	110	39.9	47	17.0	31	11.2	10	3.6	10	3.6	2	.07	0	0.0
2. Enthusiasm and interest in participation.	71	25.7	106	38.4	134	48.6	120	43.5	64	23.2	40	14.5	7	2.5	10	3.6	0	0.0	0	0.0
3. Application of retained and reading skills	17	6.2	61	22.1	122	44.2	113	40.9	101	36.6	81	29.3	29	10.5	20	7.3	7	2.5	1	.04
4. Willing response to reading related questions	89	32.3	118	42.8	118	42.8	104	37.7	53	19.2	45	16.3	15	5.4	8	2.9	1	.04	1	.04
5. Listening to others share reading experiences	49	17.8	79	28.6	121	43.8	115	41.7	83	30.1	62	22.5	20	7.3	20	7.3	3	1.1	0	0.0

APPENDIX III

CLASSROOM TEACHER RATINGS
FREQUENCY COUNT
N=276 Pupils

	RATINGS															
	Always Occurs				Often Occurs				Occasionally Occurs				Seldom Occurs		Never Occurs	
	Pre		Post		Pre		Post		Pre		Post		Pre	Post	Pre	Post
	N	%	N	%	N	%	N	%	N	%	N	%	N %	N %	N %	N %
1. Interest in basal reading group.	8	2.9	5	1.8	40	14.5	22	8.0	95	34.4	75	27.2	102 37.0	112 40.6	31 11.2	62 22.5
2. Utilizes classroom reading opportunities.	31	11.2	70	25.4	93	33.7	100	36.2	82	29.7	80	29.0	53 19.2	20 7.3	17 6.2	6 2.2
3. Applies strengthened reading skills.	11	4.0	40	14.5	70	25.4	84	30.4	107	38.8	97	35.1	61 22.1	41 14.9	27 9.8	14 5.1
4. Reads as "free-time" activity.	23	8.3	50	18.1	59	21.4	75	27.2	99	35.9	89	32.3	66 23.9	52 18.8	29 10.5	10 3.6
4. Use of library as reading source	49	17.8	69	25.0	81	29.4	94	34.1	90	32.6	78	28.3	44 15.9	30 10.9	12 4.4	5 1.8

Appendix IV-A Scale of Reading Attitude, Adapted from A Scale of Reading Attitude Based on Behavior. Developed by C. Glenn Rowell, The Reading Teacher, February, 1972. Vol 25 Number 5. Newark, Delaware-p.444, was removed because of copyright and

APPENDIX V

READING STRATEGY PROGRAM

Division of Language Arts

CLEVELAND PUBLIC SCHOOLS

June 6, 1975

STAFF PERCEPTION SURVEY

Your role in the Reading Strategy program is of major importance to pupils' success. This year, will strive to measure product resulting from process. Please respond to the items on this survey. Return the completed form to Juanita Logan, room 603, Division of Research and Development not later than June 11, 1975.

1. What is your assignment in the Reading Strategy program?
   Reading Strategiest ☐ Speech Therapist ☐ Tutor ☐
   Psychologist ☐ Supportive Teacher ☐

2. What have been your major responsibilities this year?

3. How many inservice meetings/staff conferences have you attended?

4. What did you consider the most meaningful contributions of in-service/staff conferences to your effectiveness in this project?

5. How did your role assist the project to achieve its objectives?

6. What did the Reading Strategy Program do:
   . for pupils?
   ..for teachers?

7. Please feel free to include recommendations:
   . to improve project operations:
   . for greater pupil growth
   . for the project's future

Division of Research and Development

READING STRATEGY PROGRAM
Cleveland Public Schools
1973-1974

Principal's Opinionnaire

Dear Principal:

We are interested in your help concerning the impact of the Reading Strategy Program. Please complete the items on the opinionnaire and return to Juanita Logan, Division of Research and Devleopment, room 603 not later than June 6, 1975.

1. How many teachers are there in the following grades?

   Fourth_____ Fifth_____ Sixth_____

2. In how many of these classes did the Reading Strategy teacher work?

   Fourth_____ Fifth_____ Sixth_____

3. In your opinion, what were two major aspects of the Reading Strategy Program as it operated in your building?

4. How would you rate the effectiveness of the Reading Strategy approach to improvement of pupils' reading weaknesses?

   . for pupils

Extremely Effective	Very Effective	Somewhat Effective	Not Too Effective	No Effectiveness
☐	☐	☐	☐	☐

   What was different for pupils?

   . for teachers

Extremely Effective	Very Effective	Somewhat Effective	Not Too Effective	No Effectiveness
☐	☐	☐	☐	☐

5. What was different for teachers?

6. Did you, your assistant or administrative intern have occasion to observe the Reading Strategy teacher at work with children?

   Yes ☐ No ☐

7. If yes, what did you think of the:

a. Reading Strategy instructional format?

Excellent	Very Good	Good	Less than Expected	Poor

b. relativity of instructional activities to lesson purpose

Extremely Relevant Most of the Time	Relevant Most of the Time	Somewhat Relevant Most of the Time	Less than Relevant Most of the Time	Not Relevant Most of the Time

. pupil enthusiasm for the learning experience?

Great Enthusiasm by all pupils	Enthusiasm by most pupils	Enthusiasm by some pupils	Little Enthusiasm	No Enthusiasm

8. We will appreciate your recommendations for future growth of this program.

Division of Research and Development

3/25/75

Cleveland Public Schools

Parent Opinionnaire
May, 1974

Dear Parent:

We are contacting parents whose youngsters have participated in the Reading Strategy Program during this year.

Your child_____has received reading help through this program. Would you please help us by telling us what you think about this program? Please answer and return to your child's teacher by June 6, 1975.

1. Was your son or daughter in this program? Son___Daughter___Both

2. What grade was/were your child/children_____(child)_____children

3. How would you rate the help given your child?

Excellent Help	Good Help	Fair Help	Little Help	No Help
☐	☐	☐	☐	☐

4. What did your child tell you about the help he/she had received from the Reading Stragegy teacher?

_____

_____

_____

5. What showed you that your child was reading better?

_____

_____

_____

6. How many times did you attend:

Parent Meetings Parent Workshops

7. Did you talk about your child's reading with:

. the Reading Strategy teacher ☐ ? How many times?_____

. the Reading Strategy Psychologist ☐ ? How many times? _____

. the Reading Strategy Speech Therapist ☐ ? How many times? _____

8. What recommendations would you make for improvement of the Reading Strategy Program?

_____

_____

_____

Division of Research and Development

3/18/75

READING STRATEGY PROGRAM
Cleveland Public Schools

Teacher Opinionnaire

May, 1975

Selected pupils in your classroom have participated in the Reading Strategy Program during the 1974-75 school year. We are asking your cooperation in the completion of this opinionnaire that we may ascertain the impact of this program from the viewpoint of the classroom teacher. Kindly return the opinionnaire unsigned, in the enclosed envelope, not later than June 11, 1975 to Juanita Logan, Division of Research and Development, room 603.

1. In your opinion what were the major purposes of the Reading Strategy program?

_____

_____

_____

_____

2. How many pupils from your class were involved in this project?

Grade Level_____Class Size_____No. in program_____

3. What did you do to assist the project's efforts to improve the reading weaknesses of pupils selected according to the Reading Strategy Program's criteria?

_____

_____

_____

Small Groups

If the Reading Strategy teacher worked with small groups of children in your classroom, please complete items 4a and 5a.

4a. In your opinion, how many pupils, who were assisted by Reading Strategy staff, made improvement in reading to the following degrees:

Very Marked Improvement	Marked Improvement	Some Improvement	Little Improvement	No Improvement

5a. How many of your pupils who were participants in the Reading Strategy Program, reflected positive changes in the following areas and to the following degrees:

. attitude toward reading

Very Marked Change	Marked Change	Some Change	Little Change	No Change

. increased self-motivation

Very Marked Change	Marked Change	Some Change	Little Change	No Change

Whole Class

If the Reading Strategy teacher worked with the whole class Please complete items 4b and 5b.

4b. What per cent of pupils, in stanines 1, 2, and 3, based upon the results from your Stanford Diagnostic Test results, made improvement to the following degrees?

Number of pupils in stanines 1, 2, and 3._____

Check the per cent box which most nearly applies.

Very Marked Improvement	100%	☐	75%	☐	50%	☐	25%	☐	10%	☐	0% ☐
Marked Improvement	100%	☐	75%	☐	50%	☐	25%	☐	10%	☐	0% ☐
Some Improvement	100%	☐	75%	☐	50%	☐	25%	☐	10%	☐	0% ☐
Little Improvement	100%	☐	75%	☐	50%	☐	25%	☐	10%	☐	0% ☐
No Improvement	100%	☐	75%	☐	50%	☐	25%	☐	10%	☐	0% ☐

5b. What per cent of pupils in stanines 1, 2 and 3, based upon Stanford Diagnostic Test results reflected positive changes in the following areas and to the following degrees?

. attitude toward reading

Very Marked Improvement	100% ☐	75% ☐	50% ☐	25% ☐	10% ☐	0% ☐
Marked Improvement	100% ☐	75% ☐	50% ☐	25% ☐	10% ☐	0% ☐
Some Improvement	100% ☐	75% ☐	50% ☐	25% ☐	10% ☐	0% ☐
Little Improvement	100% ☐	75% ☐	50% ☐	25% ☐	10% ☐	0% ☐
No Improvement	100% ☐	75% ☐	50% ☐	25% ☐	10% ☐	0% ☐

6. How helpful was the project to you?

Extremely Helpful	Very Helpful	Somewhat Helpful	Limited Help	Not Helpful

7. We welcome your suggestions for the growth of this project.

Division of Research and Development

/18/75